

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Previously Presented) A plasma processing apparatus for processing a substrate, comprising:

    a process chamber, comprising:

        a wall defining part of the process chamber;

        a gas source for providing a gas within the process chamber defined by the wall;

        a device for igniting and sustaining within the process chamber a plasma from the gas provided by the gas source for said processing; and

    a plasma confinement arrangement, comprising a magnetic array having a plurality of magnetic elements that are disposed within said process chamber, said plurality of magnetic elements being configured to produce a magnetic field, and wherein said plurality of magnetic elements are disposed around and extend along said plasma region, and wherein said magnetic elements are within said plasma region, wherein the wall surrounds the magnetic elements and the plasma region so that plasma is able to form plasma deposition on the wall, and wherein the magnetic field produced by the magnetic elements reduces plasma deposition on the wall, wherein each of said plurality of magnetic elements extend substantially from a first end of said process chamber to a chuck, wherein the magnetic elements are spaced apart from the wall, so that the gas provided by the gas source is able to surround the magnetic elements and go into spaces between the wall and the magnetic elements, wherein said magnetic field has an azimuthally symmetric radial gradient.

3-4. (Canceled)

5. (Previously Presented) The apparatus, as recited in claim 2, wherein each magnetic element has a physical axis which extends along the plasma region.

6. (Original) The apparatus, as recited in claim 5, wherein each magnetic element has a magnetic axis which is substantially perpendicular to the physical axis.

7. (Original) The apparatus, as recited in claim 5, wherein said magnetic elements are permanent magnets.

8. (Canceled).

9. (Currently Amended) The apparatus, as recited in claim 5, wherein said magnetic elements are individually contained within sleeves, wherein each sleeve contains only a single magnetic element.

10. (Original) The apparatus, as recited in claim 5, wherein at least one of said magnetic elements is moved so that said magnetic field shifts over time.

11. (Original) The apparatus, as recited in claim 5, wherein said magnetic elements are rotated.

12. (Original) The apparatus, as recited in claim 2, wherein said magnetic elements are permanent magnets.

13. (Previously Presented) The apparatus, as recited in claim 9, wherein said sleeves shield said magnetic elements from plasma.

14. (Currently Amended) The apparatus, as recited in claim 2, wherein said magnetic elements are individually contained within sleeves, wherein each sleeve contains only a single magnetic element.

15. (Original) The apparatus, as recited in claim 2, wherein at least one of said magnetic elements is moved so that said magnetic field shifts over time.

16-26 (Canceled).

27. (Previously Presented) The apparatus, as recited in claim 2, wherein the plurality of magnetic elements are disposed around and outside the periphery of the substrate.

28. (Previously Presented) The apparatus, as recited in claim 2, wherein the magnet elements are placed to create a minimum magnetic field at the substrate.

29. (Canceled)

30. (Previously Presented) The apparatus, as recited in claim 2, wherein the process chamber is substantially cylindrical shape and the wall forms a side of the substantially cylindrical shape, further comprising a substrate holder a bottom of the substantially cylindrical shape, wherein the wall extends from a top of the substantially cylindrical shape to the bottom of the substantially cylindrical shape.

31. (Previously Presented) The apparatus, as recited in claim 30, wherein each of the plurality of magnetic elements extend substantially from the top of the substantially cylindrical shape to the bottom of the substantially cylindrical shape.

32. (Previously Presented) The apparatus, as recited in claim 31, further comprising a dielectric window at the top of the substantially cylindrical shape.

33. (Previously Presented) The apparatus as recited in claim 2, wherein said magnetic field has an azimuthally symmetric radial gradient.

34. (Previously Presented) The apparatus, as recited in claim 2, wherein each of the plurality of magnetic elements have a first end and a second end, wherein the first ends of the plurality of magnetic elements form an opening that is a magnet free opening, so that magnets do not

extend across first ends of the plurality of magnetic elements, and wherein the second ends of the plurality of magnetic elements form an opening that is a magnet free opening, so that magnets do not extend across second ends of the plurality of magnetic elements.

35. (Previously Presented) The apparatus, as recited in claim 34, further comprising a coil adjacent to the first ends of the plurality of magnetic elements.

36. (Previously Presented) The apparatus, as recited in claim 2, further comprising a coil adjacent to the first ends of said process chamber.